

Applicant: SINGER, Rudolf
Serial No.: 10/079,031
Filed: February 19, 2002
Response to Nonfinal Office Action
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REMARKS

Claims 1-19 are pending in the application. Claims 6 and 7 are canceled. Claim 1 is amended to include the elements of claims 6 and 7. Claim 15 is amended to include that the heating ring and the cylindrical end piece are located a specified distance apart. Claims 2, 11, 13, 18, and 19 have been amended to remedy minor grammatical errors. Support for the amended claims can be found in the specification and claims as filed. Support for the amendment can be found in claims 1, 6, and 7 as filed and in the specification as filed at, for example, page 8, lines 5-7. The amendments add no new matter. Applicant respectfully requests entry of the amendments.

Rejections Under 35 USC § 102(b)

The Examiner rejected claims 1-19 as allegedly anticipated by US Patent No. 4,162,152 to Petro (“Petro”). The Examiner asserted that Petro discloses a glass melting furnace having an orifice that reads on the claimed delivery nozzle, a platinum material, an insulating wall that reads on the claimed ceramic component, a metal member that reads on the claimed cylindrical heating ring, two electrical contact members that read on the claimed two current feed sheets, upper and lower flanged rings, and a take-off bar at the distal end of the cylindrical portion of the orifice that reads on the claimed delivery nozzle.

Applicants respectfully disagree with the Examiner. The delivery device of Petro comprises a conical funnel that is part of the outer wall of the glass melting furnace. Thus, in the Petro delivery device molten glass comes into contact with the ceramic wall of the glass furnace. In contrast, the claimed device is structured so that molten glass is guided by the delivery nozzle made from platinum group metals and is thus shielded from contact with the ceramic member. However, in order to advance prosecution of the subject application, Applicants have amended claim 1 and claim 15 to include all the elements of claims 6 and 7. Applicants submit that the Examiner’s anticipation rejections

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based on the cited prior art are now overcome in light of the amendment. Accordingly, Applicants submit that all the pending claims comprise allowable subject matter.

Petro does not disclose the end piece of amended claim 1. Applicant has amended claim 1 to include that the cylindrical heating ring and the cylindrical end piece are located a distance apart that is from about one to about three times the wall thickness of the cylindrical end piece. The Petro heating ring is identical to the end piece. In contrast, amended claim 1 includes an end piece surrounded by a heating ring and spaced apart from the cylindrical end piece by about one to about three times the wall thickness of the end piece. One advantage of this structure is that at least part of the heating current flows through the heating ring, whereas the remaining current can flow directly through the end piece. Thus, the structure of amended claim 1 can allow more intense heating of the cylindrical part of the delivery nozzle and take-off bar.

Petro does not disclose, teach, or suggest claim 15 as amended. The Examiner is referred to arguments made of record above regarding claim 1. Applicant further submits that the Examiner has not indicated where, in Petro, upper and lower flanged rings are disclosed, as recited in claim 15.

Because Petro does not disclose, teach, or suggest the delivery nozzle of amended claim 1 or amended claim 15, Petro does not anticipate the amended claims. Accordingly, Applicants request reconsideration and withdrawal of the Examiner's anticipation rejection based on Petro.

Rejections Under 35 USC § 103(a)

The Examiner rejected claims 1, 2, 4, and 13 as allegedly obvious in light of US Patent No. 4,565,559 to Perkins ("Perkins"). The Examiner asserted that Perkins discloses a drain bushing for molten glass made of platinum or a platinum alloy with a holding portion, an outlet, and an outlet nozzle, wherein the orifice is platinum, with an

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electrical barrier that encompasses the orifice and is outside of the electrical barrier, and an electrical heating element that surrounds the electrical barrier. The Examiner asserted that the heating element provides energy to the orifice to maintain the flow of molten glass through the orifice, and that the heating element can be made of platinum or a certain alloy, precluding the need for a separate barrier material, so that the heating element is proximate to the orifice. The Examiner conceded that Perkins does not disclose a ceramic component about the heating element. The Examiner argued that it would have been obvious to add a ceramic component (refractory) to the device of Perkins, since such a component is a necessary feature in a molten glass furnace to provide insulation at high processing temperature and prevent loss of heat to the surrounding environment.

Applicant respectfully disagrees with the Examiner. Perkins does not disclose, teach, or suggest direct heating of an end piece. In contrast, Perkins discloses a structure that supports *indirect* heating:

In order to maintain the required elevated drain bushing temperature for fiberization process, there is now employed a *conductive heating method in which the heat generated by resistance heating element 7 is passed through an electrical insulating barrier 5 to bushing 1.*

(Perkins at col. 3, lines 40-45, emphasis added). Thus, Perkins teaches away from the rejected claims. Since Perkins discloses structures that ensure indirect heating, Perkins cannot render the rejected or amended claims obvious. Accordingly, Applicants submit that the amended claims are not obvious in light of Perkins.

Conclusion

In view of the foregoing amendments and remarks, reconsideration and allowance are respectfully requested.

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No fee is believed to be due with respect to the filing of this amendment other than the enclosed fee for a three-month extension of time. If any additional fees are due, or an overpayment has been made, please charge, or credit, our Deposit Account No. 11-0171 for such sum.

If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicant's attorney at the telephone number provided below.

Respectfully submitted,



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